CLAIMS

The invention claimed is:

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1.   A device comprising:

    a network interface for coupling to a network; and

    a processor coupled with the network interface, in which the processor is adapted to

10   establish a VoIP connection;

        place the VoIP connection on hold;

        determine whether there is return speech from the VoIP connection that has been placed on hold; and

        if so, withhold transmitting on-hold music/sound through the VoIP

15   connection.

2.   The device of claim 1, in which

    determining is performed by interpreting a VAD ON/OFF event.

20 3.   The device of claim 1, in which

    the VoIP connection is over a network voice path, and

    determining is performed by:

    monitoring the voice path for return packets; and

    analyzing to determine whether the return packets encode speech.

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4.   The device of claim 3, in which

    analyzing is for speech energy that corresponds to speech sustained for a predetermined time minimum.

30 5.   The device of claim 1, in which the processor is further adapted to:

        silence-monitor to determine whether prior return speech has discontinued; and

        if so, transmit on-hold music/sound through the VoIP connection.

6.   The device of claim 5, in which

      silence-monitoring is performed by interpreting a VAD ON/OFF event.

7.   The device of claim 5, in which

5   silence-monitoring is performed by interpreting a received SID packet.

8.   The device of claim 5, in which

      the VoIP connection is over a network voice path, and

      silence-monitoring is performed by:

10   monitoring the voice path for return packets; and

      analyzing to determine whether the return packets encode silence.

9.   The device of claim 8, in which

      analyzing is for speech energy that corresponds to silence sustained for a

15 predetermined time minimum.

10.   A device comprising:

      means for establishing a VoIP connection;

      means for placing the VoIP connection on hold;

20   means for determining whether there is return speech from the VoIP

connection that has been placed on hold; and

      if so, means for withholding transmitting on-hold music/sound through the

VoIP connection.

25 11.   The device of claim 10, in which

      the means for determining includes means for interpreting a VAD ON/OFF

event.

12.   The device of claim 10, in which

30   the VoIP connection is over a network voice path, and

      the means for determining includes:

      means for monitoring the voice path for return packets; and

      means for analyzing to determine whether the return packets encode speech.

13. The device of claim 12, in which

the means for analyzing is for speech energy analyzes for speech sustained for a predetermined time minimum.

5   14. The device of claim 10, further comprising:

means for silence-monitoring to determine whether prior return speech has discontinued; and

if so, means for transmitting on-hold music/sound through the VoIP connection.

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15. The device of claim 14, in which

the means for silence-monitoring includes means for interpreting a VAD ON/OFF event.

15   16. The device of claim 14, in which

the means for silence-monitoring includes means for interpreting a received SID packet.

17. The device of claim 14, in which

20   the VoIP connection is over a network voice path, and

the means for silence-monitoring includes:

means for monitoring the voice path for return packets; and

means for analyzing to determine whether the return packets encode silence.

25   18. The device of claim 17, in which

the means for analyzing is for speech energy analyzes for speech sustained for a predetermined time minimum.

19. An article comprising: a storage medium, the storage medium having

30   instructions stored thereon, in which when the instructions are executed by at least one device, they result in:

establishing a VoIP connection;

placing the VoIP connection on hold;

determining whether there is return speech from the VoIP connection that has been placed on hold; and

if so, withholding transmitting on-hold music/sound through the VoIP connection.

20. The article of claim 19, in which

determining is performed by interpreting a VAD ON/OFF event.

21. The article of claim 19, in which

the VoIP connection is over a network voice path, and

determining is performed by:

monitoring the voice path for return packets; and

analyzing to determine whether the return packets encode speech.

22. The article of claim 21, in which

analyzing is for speech energy that corresponds to speech sustained for a predetermined time minimum.

23. The article of claim 19, in which the instructions further result in:

silence-monitoring to determine whether prior return speech has discontinued; and

if so, transmitting on-hold music/sound through the VoIP connection.

24. The article of claim 23, in which

silence-monitoring is performed by interpreting a VAD ON/OFF event.

25. The article of claim 23, in which

silence-monitoring is performed by interpreting a received SID packet.

26. The article of claim 23, in which

the VoIP connection is over a network voice path, and

silence-monitoring is performed by:

monitoring the voice path for return packets; and

analyzing to determine whether the return packets encode silence.

27. The article of claim 26, in which

analyzing is for speech energy that corresponds to silence sustained for a

predetermined time minimum.

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28. A method comprising:

establishing a VoIP connection;

placing the VoIP connection on hold;

determining whether there is return speech from the VoIP connection that has

10   been placed on hold; and

if so, withholding transmitting on-hold music/sound through the VoIP

connection.

29. The method of claim 28, in which

15   determining is performed by interpreting a VAD ON/OFF event.

30. The method of claim 28, in which

the VoIP connection is over a network voice path, and

determining is performed by:

20   monitoring the voice path for return packets; and

analyzing to determine whether the return packets encode speech.

31. The method of claim 30, in which

analyzing is for speech energy that corresponds to speech sustained for a

25   predetermined time minimum.

32. The method of claim 28, further comprising:

silence-monitoring to determine whether prior return speech has discontinued;

and

30   if so, transmitting on-hold music/sound through the VoIP connection.

33. The method of claim 32, in which

silence-monitoring is performed by interpreting a VAD ON/OFF event.

34. The method of claim 32, in which

silence-monitoring is performed by interpreting a received SID packet.

35. The method of claim 32, in which

the VoIP connection is over a network voice path, and

silence-monitoring is performed by:

monitoring the voice path for return packets; and

analyzing to determine whether the return packets encode silence.

10 36. The method of claim 35, in which

analyzing is for speech energy that corresponds to silence sustained for a

predetermined time minimum.